APPENDIX D: BIOLOGICAL RESOURCES TABLES

Species Name	Islands of Occurrence
Mammals	
California myotis Myotis californicus	Santa Cruz, Santa Rosa
Long-eared myotis Myotis evotis	Santa Cruz
Fringed myotis Myotis thysandoes	Santa Cruz
Big brown bat <i>Eptesicus fuscus</i>	Santa Cruz
Hoary bat Lasiurus cinereus	Santa Cruz, Santa Rosa, Santa Barbara
Western bat <i>Lasiurus blossevillii</i>	Santa Cruz
Mexican free-tailed bat	Santa Cruz, Santa Rosa
Tadarida brasiliensis	
Santa Barbara Island deer mouse	Santa Barbara
Peromyscus maniculatus elusus	
Santa Cruz Island deer mouse	Santa Cruz
Peromyscus maniculatus santacruzae	
Santa Rosa Island deer mouse	Santa Rosa
Peromyscus maniculatus santarosae	
Santa Miguel Island deer mouse	Santa Miguel
Peromyscus maniculatus santastreatori	
Santa Cruz Island harvest mouse <i>Reithrodontomys</i> megalotis santacruzae	Santa Cruz
Birds	
Northern harrier Circus cyaneus	San Miguel
Red-tailed hawk Buteo jamaicensis	Santa Cruz, Santa Rosa, San Miguel
American kestrel Falco sparverius	All four islands
Chuker Alectoris chukar	Santa Rosa, introduced
Wild turkey Meleagris gallopavo	Santa Cruz, introduced
California quail Callipepla californica	Santa Cruz, Santa Rosa
Great blue heron Ardrea Herodias	Santa Rosa
Killdeer Charadrius vociferous	Santa Cruz, Santa Rosa
Black oystercatcher Haematopus palliates	All four islands
Mourning dove Zenaida macroura	Santa Cruz, Santa Rosa
Barn owl <i>Tyto alba</i>	All four islands
Daili OWI 1 gio uiou	
Northern saw-whet owl Aegolius acadicus	Santa Cruz

Table D-1 (Continued): (Non-Sensitive) Wildlife at	the Channel Islands Project Locations
Species Name	Islands of Occurrence
White-throated swift Aeronautes saxatalis	Santa Cruz, Santa Barbara
Anna's hummingbird Calypte anna	Santa Cruz, San Miguel
Allen's hummingbird Salsphorus sas sedentarius	Santa Cruz, Santa Rosa, San Miguel
Acorn woodpecker Melanerpes formicivorus	Santa Cruz
Northern flicker Colaptes auratus	Santa Cruz
Pacific-slope flycatcher Empidonax difficilis insulicola	Santa Cruz, Santa Rosa
Black phoebe Sayornis nigricans	Santa Cruz, Santa Rosa, San Miguel
Ash-throated flycatcher Myiarchus cinerascens	Santa Cruz, Santa Rosa
Horned lark Eremophila alpestris insularis	Santa Cruz, Santa Rosa, San Miguel, Santa Barbara
Barn swall Hirundo rustica	All four islands
Common raven Corvus corax	Santa Cruz, Santa Rosa
Island scrub-jay Aphelocoma insularis	Santa Cruz
Bushtit Psaltriparus minimus	Santa Cruz
Red-breasted nuthatch Sitta Canadensis	Santa Cruz
Rock wren Salpinctes obsoletus	All four islands
Bewick's wren Thryomanes bewickii nesophilus	Santa Cruz, Santa Rosa
Blue-gray gnatcatcher <i>Polioptila caerulea</i>	Santa Cruz
Northern mockingbird Mimus polyglottos	Santa Cruz, Santa Rosa
Loggerhead shrike Lanius ludovicianus anthonyi	Santa Cruz, Santa Rosa
European starling Sturnus vulgaris	All four islands, introduced
Hutton's vireo Vireo huttoni	Santa Cruz, Santa Rosa
Orange-crowned warbler Vermivoraa celata	All four islands
Black-headed grosbeak Pheucticus melanocephalus	Santa Cruz
Rufous-crowned sparrow Aimephila ruficeps obscura	Santa Cruz
Song sparrow Melospiza melodia clementae	Santa Cruz, Santa Rosa
San Miguel song sparrow Melospiza melodia micronyx	San Miguel
Spotted towhee Pipilo maculates	Santa Cruz, Santa Rosa
Chipping sparrow Spizella passerine	Santa Cruz, Santa Rosa
Red-winged blackbird Agelaius phoeniceus	Santa Cruz
Western meadowlark Sturnella englecta	All four islands
Lesser goldfinch Carduelis psaltria	Santa Cruz, Santa Rosa, San Miguel
House finch Carpodacus mexicanus frontalis	Santa Cruz, Santa Rosa, San Miguel

D-2

Table D-1 (Continued): (Non-Sensitive) Wildlife at the	e Channel Islands Project Locations
Species Name	Islands of Occurrence
Amphibians	
Blackbelly slender salamander Batrachoseps nigriventris	Santa Cruz, Santa Rosa, San Miguel
Channel Islands slender salamander <i>Batrachoseps pacificus</i> pacificus	Santa Cruz, Santa Rosa, San Miguel
Pacific tree frog Pseudacris regilla	Santa Cruz, Santa Rosa
Reptiles	
Southern alligator lizard Elagria multicarinata	Santa Cruz, Santa Rosa, San Miguel
Island fence lizard Sceloporus occidentalis beckii	Santa Cruz, Santa Rosa, San Miguel
Side-blotched lizard <i>Uta stansburnia</i>	Santa Cruz
Western yellowbelly racer Coluber constrictor mormon	Santa Cruz
Invertebrates	
Durant's snail Haplotrema duranti	Santa Barbara, Santa Cruz; dwells in upper layers of leaf litter along dry stream beds and under rocks, branches, logs, and other debris
Ayer's snailHelminthoglypta ayresiana santaecrucis	Santa Cruz; terrestrial mollusk
Shepard's snail <i>Pristiloma shepardae</i>	Santa Cruz; terrestrial mollusk
Channel Islands leaf-cutter bee Ashmeadiella chumashae	Santa Cruz; terrestrial insect; species was recently discovered and little is known; leaf-cutter bees often (but not always) construct nests in cavities
Channel Islands sweat bee Lasioglossum channelense	Santa Cruz; terrestrial insect; little is known about this species

SOURCE: USFWS 2009, CDFG 2009, CNDDB

Table D-2: Sensitive Animals, Plants, and Habitats Identified as Having the Potential to Occur in the Project Area			
Common Name (Scientific Name) or Habitat Name	Federal/State/ Other Status	Island Location(s) and Preferred Habitat	Potential to Occur and Habitat at Various Project Locations
Mammals			
Island Fox: San Miguel Island fox (Urocyon littoralis littoralis) Santa Rosa Island fox (Urocyon littoralis santarosae) Santa Cruz Island fox (Urocyon littoralis santacruzae)	FE/ST/IUCN: CR	San Miguel, Santa Rosa, Santa Cruz Inhabits areas with mixed chaparral, coastal scrub, shrubs, and woodland. Prefers complex vegetation with high density of woody, fruiting shrubs and rocky areas with dense brush for cover. Dens in burrows, stumps, logs, or under rocks. Foraging peaks in early morning and late afternoon/ evening, with least activity at midday or very early morning. Active yearlong, breeding is generally in February/March, with young born in late April and May. Pups are independent starting in September.	Occurs in project areas. San Miguel Island fox at location nos. 3 and 4; Santa Rosa Island fox at location nos. 14 and 15; Santa Cruz Island fox at location nos. 5, 6, 7, 9, and 10. Very low potential to den at project locations due to existing human disturbance and general lack of suitable habitat for denning.
Guadalupe fur seal (Arctocephalus townsendii)	FT/ST/FP/ IUCN: NT	San Miguel Found in shallow, nearshore island waters. Prefers cool and sheltered rocky habitats along steep access to water. Breeds primarily May to July with peak pupping in June.	May be near flight and boat paths to and from San Miguel Island. No potential to occur at any of the 15 proposed project sites; habitats are found ¼ mile or more away from all sites.

Table D-2 (Continued): Sensitive Animals,	Plants,	and Habitats	Identified as	Having the
Potential to Occur in the Project Area				

Common Name (Scientific Name) or Habitat Name	Federal/State/ Other Status	Island Location(s) and Preferred Habitat	Potential to Occur and Habitat at Various Project Locations
Northern fur seal (Callorhinus ursinus)	None/None/ IUCN: VU	San Miguel Non-migratory fur seal population found along shore on west end of island. Breeds May to August on land on large offshore rocks, along rocky or sandy island shorelines peak; pupping occurs in July.	May be near flight and boat paths to and from San Miguel Island. No potential to occur at any of the 15 proposed project sites; habitats are found ¼ mile or more away from all sites.
Santa Cruz Island harvest mouse (<i>Reithrodontomys</i> <i>megalotis santacruzae</i>)	FE/SE,FP/ IUCN: EN	Santa Cruz Inhabits meadows, pastures, coastal salt marsh, agricultural, and riparian areas.	Low potential to den at project location nos. 5, 6, 7, 9, and 10 due to human presence and marginal habitat; known to occur across Santa Cruz Island.
Channel Islands spotted skunk (Spilogale gracilis amphiala)	None/ SC/None	Santa Cruz, Santa Rosa Nocturnal; inhabits rocky bluffs and brushy canyon stream beds.	Possible occurrence. Species is known to occur at location nos. 7, 8, 14, and 15. Low potential to den at project areas due to lack of suitable habitat.
Silver-haired bat (Lasionycteris noctivagans)	None/None/IU CN: LC, WBWG: M	Santa Cruz Roosts in hollow trees, snags, rock crevices, buildings, caves, and under bark.	Occurs in project areas at location nos. 5, 6, 7, 9, 14, 17, and 18. Potential to roost in project areas.
Pallid bat (<i>Antrozous</i> pallidus)	None/SC/ IUCN: LC, WBWG: H	Santa Cruz Roosts in hollow trees, snags, rock crevices, buildings, caves, and mines.	Occurs in project areas at location nos. 5 and 6. Potential to roost in project areas.
Townsend's big-eared bat (Corynorhinus townsendii)	None/SC/ IUCN: LC, WBWG: H	Santa Cruz, Santa Rosa Roosts in mines, buildings, caves, and other manmade structures; roosting sites are the most important limiting resource. Nocturnal, peak	Present across Santa Cruz Island and known to occur at location nos. 5, 6, and 7. Also known to occur on Santa Rosa Island and could potentially occur at location nos. 11, 12, 14, 15,

Table D-2 (Continued): Potential to Occur in the I		s, Plants, and Habitats Ident	ified as Having the
Common Name (Scientific Name) or Habitat Name	Federal/State/ Other Status	Island Location(s) and Preferred Habitat	Potential to Occur and Habitat at Various Project Locations
		activity in late evening; hibernates from October to April. Mating occurs November through February, birth occurs in May and June. Species is extremely sensitive to disturbance of roosting sites: a single visit may result in abandonment of roost.	16, 17, and 18.
Reptiles			
Island night lizard (Xantusia riversiana)	FT/None/IUCN : LC	Santa Barbara Can be found under rocks,	May occur at location no. 1.
		decaying bark, or plants.	
Birds			
Western snowy plover (Charadrius alexandrines nivosus)	Nesting FT, MBTA, USFWS: BOCC/SC/Non e	San Miguel, Santa Rosa Beaches, salt flats, or open areas near water.	May occur more than 750 feet from location nos. 3, 4, 11, 12, 16, 17, and 18.
Brown pelican (Pelecanus occidentalis)	Nesting Colony and Communal Roosts FE, MBTA/Delisted /None	Santa Cruz and Santa Barbara Oceanic or brackish water habitats; nests in undisturbed areas.	May occur within 500 feet of location no. 1; on an unnamed islet 3,000 feet east of location no. 6; and on Prince Island, 1 mile northeast of San Miguel Island.
Xantus' murrelet (Synthliboramphus hypoleucus)	Nesting Colony cFT, USFWS: BOCC, MBTA/ST/ IUCN: VU	Santa Cruz, San Miguel, Santa Barbara Generally nests in cavities near cliff ledges, forages in pelagic waters near nesting colonies.	Nests under all structures at location no. 1 from late February to early August. Occurs within 500 feet of location no. 6. Occurs more than 750 feet from location nos. 5, 7, 9, and 10 and more than 1 mile from location nos. 3 and 4.
Western gull (Larus occidentalis)	MBTA/None/N one	All four islands Nests on offshore islands	Occurs within 500 feet of location no. 1 and more than 500 feet from project

Table D-2 (Continued): Sensitive Animals,	Plants,	and Habitats	Identified as	Having the
Potential to Occur in the Project Area				

Common Name (Scientific Name) or Habitat Name	Federal/State/ Other Status	Island Location(s) and Preferred Habitat	Potential to Occur and Habitat at Various Project Locations
		and rocks, feeds in intertidal and pelagic waters. May nest near heavily used trails and facilities.	locations on Santa Cruz, Santa Rosa, and San Miguel Islands.
Brandt's cormorant (Phalacrocorax penicillatus)	MBTA/None/N one	All four islands Found in inshore coastal waters, especially areas with kelp beds. Breeding colonies located on gentle slopes on windward side of islands or steep cliffs with ledges.	May occur within 500 feet of location no. 1 and more than 500 feet from the other project locations on Santa Cruz, Santa Rosa, and San Miguel Islands.
Pelagic cormorant (Phalacrocorax pelagicus)	MBTA/None/N one	All four islands Found in inshore coastal waters. Breeding and roost sites include rocky habitat along outer coast, bays, inlets, estuaries, and coves.	May occur within 500 feet of location no. 1 and more than 500 feet from the other project locations on Santa Cruz, Santa Rosa, and San Miguel Islands.
Double-crested cormorant (Phalacrocorax auritus)	Rookery Site MBTA/ WL/ IUCN: LC	All four islands Breeding occurs in coastal areas as well as near inland rivers and lakes. Build stick nests in trees, on cliff edges, or on the ground on suitable islands.	May occur within 500 feet of location no. 1 and more than 500 feet from the locations on Santa Cruz, Santa Rosa, and San Miguel Islands.
Black storm-petrel (Oceanodroma melania)	Rookery Site MBTA/SC/ IUCN: LC	Santa Cruz, Santa Rosa, Santa Barbara Inhabits tropical, subtropical, and warm- temperate waters of the extreme eastern North Pacific Ocean, where it nests in desert habitat on islands. Breeding range overlaps broadly with several other all-dark	May occur within 500 feet of location no. 1 and more than 500 feet from the locations on Santa Cruz and Santa Rosa Islands.

Table D-2 (Continued): Potential to Occur in the		s, Plants, and Habitats Ident	ified as Having the
Common Name (Scientific Name) or Habitat Name	Federal/State/ Other Status	Island Location(s) and Preferred Habitat	Potential to Occur and Habitat at Various Project Locations
		Oceanodroma storm-petrels, often cohabiting the same islands and even (sometimes sequentially) the same nesting crevices.	
Ashy storm-petrel (Oceanodroma homochroa)	Rookery Site MBTA, USFWS: BOCC/ SC/ IUCN: EN	Santa Cruz, San Miguel, Santa Barbara Pelagic birds that nest in the natural rock crevices found on offshore islands.	May occur within 500 feet at location no. 1; and more than 500 feet from locations on Santa Cruz and San Miguel Islands.
Cassin's auklet (Ptychoramphus aleuticus)	Nesting Colony MBTA, USFWS: BOCC/ SC/ IUCN: LC	All four islands Nests on islands, but lives primarily far offshore. Use any kind of island for nesting, as long as mammalian predators are absent.	May occur within 500 feet of location no. 1; in the vicinity of project locations on Santa Cruz, Santa Rosa, and San Miguel Islands.
Rhinoceros auklet (Cerorhinca monocerata)	Nesting Colony MBTA/ WL/ IUCN: LC	San Miguel Pelagic birds that nest in ground burrows found on islands.	May occur within 500 feet of location nos. 3 and 4.
Island loggerhead shrike (Lanius ludovicianus anthonyi)	MBTA/ SC/None	Santa Cruz, Santa Rosa Nests in mid-story or canopy of trees and shrubs; preys on insects, lizards, mice, and birds in open country.	May occur near project locations (possibly within 500 feet) on Santa Rosa or Santa Cruz Islands.
Raven (Corvus corax)	MBTA/None/N one	Santa Cruz Inhabits most types of habitats except for rainforests. Generally roosts on cliff ledges or in large trees, but have also established nests on power lines and in urban areas.	May occur near project locations (possibly within 500 feet) on Santa Cruz Island.
Osprey	Nesting	Santa Cruz	May occur near project

Common Name (Scientific Name) or Habitat Name	Federal/State/ Other Status	Island Location(s) and Preferred Habitat	Potential to Occur and Habitat at Various Project Locations
(Pandion haliaetus)	MBTA/ WL/ IUCN: LC	Nests near water in forks of trees, rocky outcrops, utility poles, artificial platforms, or offshore islets.	locations (possibly within 500 feet) on Santa Cruz Island.
Bald eagle (Haliaeetus leucocephalus)	Nesting and Non- breeding/winte ring FT, MBTA/ SE, FP/ IUCN: LC	Santa Cruz Nests in large trees near rivers or coasts.	Have been successfully reintroduced to Santa Cruz Island. May occur (nest or roost) near the project sites (possibly within 500 feet) on Santa Cruz Island.
Channel Island song sparrow (Melospiza melodia graminea)	MBTA/ SC/None	San Miguel, Santa Rosa Inhabits moderately dense scrubby vegetation for nesting, escape cover, and foraging.	May occur near the project site (possibly within 500 feet) on San Miguel and Santa Rosa Islands.
Santa Cruz Island Rufous- crowned sparrow (Aimophila ruficeps obscura)	MBTA/ SC/None	Santa Cruz Inhabits moderate to steep, dry, rocky, south- or west- facing slopes with a low cover of scattered shrubs interspersed with patches of grasses, forbs, and bare ground.	May occur near the project site (possibly within 500 feet) on Santa Cruz Island.
Peregrine falcon (Falco peregrines)	Delisted/Endan gered/None	All four islands	Unlikely occurrence, but occasionally spotted on Channel Islands during

Burrowing owl	None/SC/None	Santa Barbara	May occur near location no.		
(Athene cunicularia)			1.		
Vegetation					
Island mallow	None/None/	San Miguel, Santa Rosa	Occurs in vicinity of site at		
(Lavatera assurgentiflora	1B.1		location no. 4.		
ssp. Assurgentiflora)		Coastal scrub; 15 to 245			
		meters.			

Table D-2 (Continued): Sensitive Animals, Plants, and Habitats Identified as Having the Potential to Occur in the Project Area				
Common Name (Scientific Name) or Habitat Name	Federal/State/ Other Status	Island Location(s) and Preferred Habitat	Potential to Occur and Habitat at Various Project Locations	
Habitats				
Southern Dune Scrub	CNDDB	San Miguel	Not in project area.	

Notes:

FE = Federally endangered; FT = Federally threatened; cFT = candidate for federally threatened status; SE = State endangered; WL = Watch List; LC = Least concerned; NT = Near threatened; VU = Vulnerable; EN = Endangered; CR = Critically endangered;

SC = California Species of Special Concern; CNDDB = occurrences of species are tracked by California Natural Diversity Database; FP = Fully Protected; BOCC = USFWS Bird of Conservation Concern

CDFG = California Department of Fish and Game; IUCN = International Union for Conservation of Nature and Natural Resources; USFWS = U.S. Fish and Wildlife Service; WBWG = Western Bat Working Group

California Native Plant Society (CNPS) List

- 1A: Presumed extinct in California.
- 1B: Rare, threatened, or endangered in California and elsewhere.
- 0.1: Seriously endangered in California.
- 0.2: Fairly endangered in California.
- 4: Limited distribution (Watch List).
- 0.2: Fairly endangered in California.

SOURCES: USFWS 2009, CDFG 2009a, CNPS 2009, CalFlora 2009, CWHR (undated).

Species	Additional Federal or State Protection?	Potential Island Locations
Ashy storm-petrel (Oceanodroma homochroa)	Yes	Santa Barbara Island, location no. 1 More than 500 feet from San Miguel Island, location nos. 3 and 4 Santa Cruz Island, location nos. 5, 6, 7, 9, and 10
Bald eagle (Haliaeetus leucocephalus)	Yes	Santa Cruz Island
Black storm-petrel (Oceanodroma melania)	Yes	Santa Barbara Island, location no. 1 Known rookery sites are more than 500 feet from sites on Santa Cruz Island San Miguel Island Santa Rosa Island
Brandt's cormorant (Phalacrocorax penicillatus)	No	Santa Barbara Island, location no. 1 More than 500 feet from sites on Santa Cruz Island San Miguel Island Santa Rosa Island
Brown pelican (Pelecanus occidentalis)	Yes	Santa Barbara Island, location no. 1 More than 500 feet from the sites on Santa Cruz Island San Miguel Island
Burrowing owl	Yes	Santa Barbara Island, location no. 1
Cassin's auklet (Ptychoramphus aleuticus)	Yes	Santa Barbara Island, location no. 1 Santa Cruz Island San Miguel Island Santa Rosa Island
Channel Island song sparrow (Melospiza melodia graminea)	Yes	San Miguel Island Santa Rosa Island
Double-crested cormorant (Phalacrocorax auritus)	Yes	Santa Barbara Island, location no. 1 More than 500 feet from sites on Santa Cruz Island San Miguel Island Santa Rosa Island
Island loggerhead shrike (<i>Lanius</i> ludovicianus anthonyi)	Yes	May occur within 500 feet of sites on Santa Cruz Island Santa Rosa Island
Osprey (Pandion haliaetus)	Yes	May occur within 500 feet of sites on Santa Cruz Island
Pelagic cormorant (Phalacrocorax pelagicus)	No	May occur less than 500 feet from Santa Barbara Island, location no. 1 My occur more than 500 feet from sites on Santa Cruz Island San Miguel Island

Table D-3: MBTA Species with Potential to Occur in the Project Vicinity				
Species	Additional Federal or State Protection?	Potential Island Locations		
		Santa Rosa Island		
Peregrine falcon Falco peregrinus	Yes	Potential to be found at all sites		
Raven (Corvus corax)	No	Potential to be found at all sites on Santa Cruz and Santa Rosa Islands		
Rhinoceros auklet (Cerorhinca monocerata)	Yes	May be found within 500 feet of sites on San Miguel Island		
Santa Cruz Island rufous-crowned sparrow (Aimophila ruficeps obscura)	Yes	May occur within 500 feet of sites on Santa Cruz Island		
Western gull (Larus occidentalis)	No	May occur within 500 feet of sites on Santa Barbara Island, location no. 1 May occur more than 500 feet from sites on Santa Cruz Island San Miguel Island Santa Rosa Island		
Western snowy plover (Charadrius alexandrines nivosus)	Yes	May occur more than 750 feet from San Miguel Island, location nos. 3 and 4 May occur more than 750 feet from Santa Rosa Island, location nos. 11, 12, 16, 17, and 18		
Xantus' murrelet (Synthliboramphus hypoleucus)	Yes	Santa Barbara Island, location no. 1 May occur within 500 feet of Santa Cruz Island, location no. 6 May occur more than 750 feet from other sites on Santa Cruz Island San Miguel Island		

SOURCES: USFWS 2009, CDFG 2009a, CNPS 2009,

References

- CalFlora. 2009. Species Query. Website: http://www.calflora.org/cgi-bin/species_query. Accessed July 2009.
- CDFG (California Department of Fish and Game). 2009. Biogeographic Data Branch California Natural Diversity Database: Special Animals (883 taxa). State of California, Natural Resources Agency. Website: http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/spanimals.pdf. Accessed October 1, 2009.
- ______. 2004. DFG News Archive: California Fish and Game Commission Lists Xantus's Murrelet as a Threatened Species. Website: http://www.dfg.ca.gov/news/news04/04017.html. February 18, 2004. Accessed September 18, 2009.
- CNPS (California Native Plant Society). 2009. Inventory of Rare and Endangered Plants. Website: http://cnps.site.aplus.net/cgi-bin/inv/inventory.cgi/. Accessed July 2009.
- USFWS (U.S. Fish & Wildlife Service). 2009. Letter from Roger P. Root, Assistant Field Supervisor USFWS to RMT, Inc. Species List for the Proposed Construction and Installation of a Wireless Telephone System and Solar Panels at 17 Sites through Five of the Channel Islands, Santa Barbara and Ventura Counties, California. Dated July 17, 2009.



This page is intentionally left blank